

1 ESO / Technology / Summer Homework Activities /

Student: Course: Date:

1st TERM: The Technological Process and Projects

1.- Fill in the blanks in this paragraph with the adequate VERBS:

Technology p objects and d..... strategies that
r..... our problems and satisfy our needs.

The technological process c..... of various stages organised to
o..... a solution to a problem or need.

2.- Write good examples of the **needs of primitive men and women**.

| Give at least 3 Basic needs | Give at least 3 Secondary needs |
|-----------------------------|---------------------------------|
| | |

3. Write a list (at least 5 words) with the MATERIALS the primitive humans use and transform into objects.

4.- Match each number with the appropriate letter

| tool | function |
|----------------------|--|
| a. straight ruler | 1) we use it to draw marks on the wood strip |
| b. carpenter's ruler | 2) we use it to help adjusting the clamp to the table |
| c. saw | 3) we use it to draw lines on the wood strip before sawing |
| d. hammer | 4) we use it to hold the wood on the table |
| e. clamp | 5) we use it to "cut" the wood strip in pieces |
| Answers | a b c d e |

5.a) Name the seven steps you should follow to develop your project.

5.b) Explain, with your own words, the following **steps of a project**:

- a) Specify the Need
- b) Brainstorm
- c) Recycling
- d) Verification/Test
- e) Design

6.- Classify the following words in this grid

Seeds / farm / Steam / Horticultural / bones / Satellites / horseshoes / shape / Industrial / Hunter-gatherer /

| Type of society/characteristics | New technology that marked a turning point | Objects or systems developed |
|---------------------------------|--|--|
| societies | Ability to a stone | Use of natural objects (stones,), making axes and spears |
| societies | Use of animals | Use of and planting |
| Agricultural-urban societies | Use of ploughs | Ploughing, , windmills |
| societies | Use of machines | Steam engines, batteries, radios, etc. |
| Post-industrial societies | Invention of transistors |, mobile phones, etc. |

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2nd TERM: Graphic Expression and (3-view) orthographic drawing

1. Complete these sentences using the right words:

- a) Pencils have (en català, "mines") of different hardness in a scale that ranges from "B" to "H".
- b) The most common protractor has degrees.
- c) We use compass to draw circumferences and
- d) The space between the two points of the compass is the of the circle.
- e) (en català, "escaire") is a right-angle isosceles triangle with one angle of 90° and two of degrees.

2.a) Give five examples of things that you would scale down to draw them in a DIN A4 paper and...

2.b) five examples of things that you would scale up to draw them in a DIN A4 paper.

| a) 5 things to be scaled down | b) 5 things to be scaled up |
|--------------------------------------|------------------------------------|
| | |
| | |
| | |
| | |
| | |

3. Write "T" (for true) or "F" (for false) at the end of the sentences. NOTE: If you consider the sentence false, then explain how the right sentence would be.

- a) The softer the pencil, the faster it consumes.
- b) We use protractors to draw parallel lines.
- c) A sketch is a freehand drawing of an object
- d) The 3 views we use to show an object are Plan (or Top), Back and Side.
- e) The scale 1:20 means that the drawing is 20 times bigger than the real dimensions.

4.a) Write the name of the 3 types of graphic scale: / /

4.b) Classify the following graphic scale values as magnifying, reduction or natural scale.

a) $5 : 100 =$

b) $2 : 1 =$

c) $1 : 48 =$

d) $24 : 3 =$

e) $1 : 1 =$

5.- Using as a reference the line at the bottom.

a) Draw an angle of 64° , opening from the left

b) Draw an angle of 142° , opening from the right

6.- Trace three concentric circles (1st radius=2cm; 2nd radius=3cm; 3rd radius=3,5 cm) with their centre at the cross.

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3rd TERM: Materials For Technical Use & Wood

1. Fill the gaps with the appropriate words:

- a) A material is a substance that we get directly form
- b) A material has been from a raw material and is available for making other products.

c) Fill the following boxes with the right words

| Raw material transformed into... | ... a new processed material |
|----------------------------------|------------------------------|
| Wood | |
| | juice |
| milk | |
| Iron ore | |
| | hamburger |

2.- Find the words that match these definitions:

| Definition | Defined word (written as an adjective) | Opposite word (written as an adjective) |
|--|--|---|
| a.- difficult to scratch | | |
| b.- easily broken by shocks | | |
| c.- squeezing into a thin new shape when compressed | | |
| d.- able to conduct electricity | | |
| e.- changing its shape when we apply forces on it but recovering the original shape when forces stop | | |

3.- Match the properties with their explanation.

| properties | explanation |
|--------------------------|---|
| a.- Electrical conductor | 1.- is the ability of a material to be pushed through a hole that gives the desired shape |
| b.- Mouldability | 2.- is the capacity of a substance to damage an organism by ingestion, inhalation or skin contact |
| c.- Extrudability | 3.- a material through which electrons can move |
| d.- Toxicity | 4.- is the capacity of a material to be used again to make another object |
| e.- Recyclability | 5.- the ability of a material to fill a mould |

Answers: / / / / / / /

4- **Classify these properties** into the appropriate column. NOTE: you only need to write the right letter in the proper box.

| (a) Density / (b) Freezing point / (c) Thermal conductivity / (d) Melting point / (e) Electrical conductivity / (f) Extrudability / (g) Recyclability / (h) Mouldability / (i) Toxicity | | |
|---|-----------------------|---------------------|
| Technological properties | Ecological properties | Physical properties |
| | | |

5.- **Fill the gaps** with the proper word:

Wood is a of plant origin.

It is composed of 2 types of fibres:

- a) fibres, which act as the of all plants, and
- b) fibres which makes it and

6.- **“3-view” Exercise.** Remember the following:

a) use a ruler to draw the outlines (silhouette) and partitions

b) use the colour code and the number code, both in the perspective and the views.

c) write the names of the views in the correct location. [C3] (10 points)

PIEZA Nº 5

